Utah Petroleum Association

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October 31, 2012

Mr. Bryce Bird
Director
Utah Division of Air Quality
P.O. Box 144820
Salt Lake City, UT 84116

RE: **Comments to Proposed PM 2.5 SIP**

Dear Mr. Bird:

Utah Petroleum Association (UPA) respectfully submits the following comments to the proposed PM 2.5 State Implementation Plan. These comments are in response to the notices in the October 1, 2012 Utah State Bulletin (DAR Files 36721, et seq.) regarding the proposed PM2.5 State Implementation Plan ("SIP"), and provides technical comments.

UPA supports the comments submitted by James Holtkamp on behalf of the Utah Manufacturers Association, the Utah Mining Association and the Utah Petroleum Association submitted October 30, 2012.

General Comments

UPA members received informally from the Utah Division of Air Quality (UDAQ) an electronic spreadsheet containing the emissions information that was reportedly used for petroleum refiners in the State's PM 2.5 model. A cursory analysis indicates multiple errors for which refiners submitted updated emissions information that were not included in the list that was modeled. These discrepancies should be corrected before relying on the results of the model. Please refer to the individual comments submitted by UPA Refinery Members for specific comments relative to the emission discrepancies. These discrepancies raise general concerns about data integrity for other sources used in the model to demonstrate attainment with the PM2.5 standard.

Comments on adding a new State Implementation Plan (SIP) Subsection IX.A.21: Control Measures for Area and Point Sources, Fine Particulate Matter, PM2.5 SIP for the Salt Lake City, UT Nonattainment Area.

Tables 3.1, 3.2, and especially 5.3 illustrate that the Hawthorne monitoring location consistently and significantly collects samples that are higher in PM 2.5 concentrations than any and all other stations in the area. Results from this station essentially govern the level of control strategies that are required. However, there is no indication that the UDAQ evaluated what may have caused the higher readings at this location or what might be done to prevent those high concentrations. This anomalous result raises serious questions about the representative accuracy and consistency of this monitor location, especially in light of the claim made in Section 3.1 regarding the homogeneity of PM2.5 concentrations within the same airshed and the associated inference that only one or two monitors are adequate to determine compliance with the NAAQS. What actions have been taken to verify and confirm the representative accuracy and consistency of the Hawthorne monitor? Absent an adequate explanation for this anomaly,

UPA believes the conclusion asserted in the SIP regarding nonattainment of the NAAQS is seriously undermined. UPA believes this issue needs to be resolved through adequate technical analysis, including the determination of statistical confidence intervals for the modeled PM2.5 concentrations (Table 5.3) at the Hawthorne monitor to allow citizens and policymakers alike to determine its degree of relevance to the nonattainment conclusion. Given that this one monitor seems to be the sole basis for adopting control measures that will be expensive to implement and will restrict future economic development, it seems only prudent to conduct such analysis before accepting the conclusions presented in the SIP. Indeed, the Stakeholder Workgroups and the general public were solicited to provide recommended solutions for reducing PM 2.5 concentrations, but they were not given any information or direction to look for causes and/or solutions to site-specific anomalies. Before proposing expensive reduction measures throughout the airshed, UDAQ should look at what actually causes the air quality problem at the location where the problem is located. UPA strongly recommends that UDAQ model each control strategy to determine the impact at the Hawthorne monitor.

Similarly, the UDAQ has explained that the PM 2.5 problem is essentially an episodic wintertime problem, occurring during strong inversions. Therefore, it appears that the best solutions would be those that apply during the problem episodes, and not during extended periods when the problem does not exist. Again, the Stakeholder Workgroups were given no specific direction to seek solutions that would be correspondingly episodic in nature, and the UDAQ staff did not appear to propose such solutions.

When evaluating costs per ton of reduced emissions, it should be noted that emissions reductions during times when there is no problem are of no benefit. Therefore, only reductions during episodic standard exceedances should be considered in a cost/benefit analysis.

Table 4.2, in the 2014 Sum of Emissions, Point Sources show a total of 0.10 tons per day of SO2. This is completely inconsistent with the other years, and is probably a typographical error. The same error carries over into Table 8.1. Again, this discrepancy raises general concerns about data integrity for other sources used in the model to demonstrate attainment with the PM2.5 standard.

Figures 5.7 through 5.10 are missing the "modeled with vertical advection deactivated (green trace)" line. UDAQ staff indicated at the September 5 Air Quality Board Meeting that the green trace was a better match than the red trace, which doesn't appear to match the peaks very well. However, since the green trace is missing, it cannot be evaluated. UDAQ should revise the graphs and allow for additional time for comment.

Section 6.3 notes that Volatile Organic Compounds (VOC) were immediately identified through air quality modeling as significant contributors to elevated PM2.5 concentrations. UPA believes that the UDAQ needs to better explain the physical and chemical mechanism of this interaction, especially since it states in Section 1.6 that VOC is normally presumed not to be significant. What factors exist along the Wasatch Front to reverse this presumption, especially since this conclusion seems to drive many of the proposed control strategies?

Under the first paragraph of Section 6.6 "Reasonably Available Control Measures (RACM/RACT)," it states that potential control measures *must* be shown to be both technologically and economically feasible (italics added). The RACT analysis for each source is then presented in the Technical Support Document (TSD). UPA Refiners submitted extensive information including BACT analyses, costs of control measures, and reductions expected from implementation of control measures. Please refer to the individual comments submitted by UPA Refiners for specific comments on control measure costs. UDAQ has not specified an applicable RACT threshold at which control measures are technologically and economically feasible. UDAQ should determine the RACT threshold at which controls are technologically and economically feasible and run the model with that level of control. This information

should then be provided for public comment.

Table 6.3 has emission totals for point sources. As noted in the General Comments above, the emissions used by the State are incorrect. Given the anomalies found within the UPA Refiners emissions totals all emission totals should be reviewed and the corrections should be incorporated into the model. Once the model is run, the table should be updated and then provided for public comment.

Table 6.4 identifies control strategies that were either "retained," meaning pursued, "screened, " meaning rejected, or "mixed," meaning parts were pursued and parts rejected. For area sources, requiring low-NOx burners on commercial and institutional water heaters was "screened" because NOx reduction impairs attainment of PM 2.5. However, in Table 6.6 UDAQ proposes to study the feasibility of requiring low-NOx burners on existing boilers and furnaces as an additional SIP control for point sources. What is the explanation for this inconsistency? How does the Agency justify further consideration of any new controls on NOx emissions from point sources? This item should be eliminated due to the reason cited for areas sources. UPA previously submitted comments on a Draft "Emission Standards: Boilers, Steam Generators, and Process Heaters" regulation in a letter dated August 10, 2012 and is attached for your convenience (Attachment 1).

Section 6.6 states that a decentralized automotive test and repair program was evaluated for Box Elder and Tooele counties, but was not included in the proposed SIP because it was determined that implementation of such a program would not affect PM 2.5 concentrations at the controlling monitor (i.e. Hawthorne) for the Salt-Lake-Ogden-Clearfield nonattainment area. UPA members wonder why the effectiveness of this individual control strategy was tested through modeling while other individual control measures were not so investigated. UPA was informed through the stakeholder process that no single one of the proposed control strategies could be shown to have a measurable effect on air quality in the model, but the desired air quality outcome could only be achieved or nearly so when the entire basket of control strategies were combined together in the model. UPA believe it essential to demonstrate the effectiveness of any single control measure before imposing it on the citizens of the State and strongly urge UDAQ to adopt this standard for evaluating any additional SIP controls or contingency measures. Specifically, we believe that UDAQ must demonstrate the effectiveness of any of the potential SIP controls listed in Table 6.6 (e.g. RVP, Boiler Rule, Flare Gas Recovery, and FLIR) or Contingency Measures described in Section 9.2 (e.g. Offset Ratio) prior to adoption in the SIP. Moreover, we believe UDAQ should ascertain the effect that more stringent offset requirements will have on industry growth and economic development before their incorporation into new or existing permit rules and procedures.

Section 6.7 includes consideration to reduce the RVP of gasoline sold during specific wintertime periods when inversions are likely to occur. However, using the MOVES2010 to estimate the impact of RVP on exhaust VOC emissions extends the relationship well beyond the data upon which the corrections were developed. The model is intended to simulate summertime conditions, and cannot reliably be extrapolated to wintertime conditions. Using a new model (MOVES 2013), currently being reviewed by the Federal Advisory Committee will demonstrate that reducing the RVP in the wintertime will have no discernible effect on VOC emissions. This consideration should be dropped and other alternative source reduction measures investigated by UDAQ. As follow up to the October 23, 2012 stakeholder meeting between UPA and UDAQ, detailed comments relative to this issue are attached (Attachment 2).

Section 6.7 retains flare gas recovery as an additional SIP control. The EPA has finalized NSPS Subpart Ja for refineries on September 12, 2012 77 FR 56422, which includes regulations which regulate flaring. This regulation is expected to be broadly applicable to all refinery flares. UPA recommends removing IX.H.11.a.viii from the SIP. If UDAQ maintains flare controls as a potential control strategy, a provision should be included that indicates compliance with Subpart Ja meets the requirements of the SIP and/or resulting rule.

Section 6.7 includes use of "FLIR" as an enforcement tool. UDAQ should be aware that this method is only useful in identifying significant releases, and federal and state regulations already require much more sensitive monitoring methods. This consideration should be dropped.

Section 6.7 has an entry for "Intermittent Controls." This should be the focus of potential control strategies. UPA requests to know why intermittent controls weren't considered in the SIP control strategies.

Section "9.4, Conclusions" states the following: "*The control strategy analysis summarized in Chapter 6 shows that stationary sources already meet or exceed RACT, and represent at most about 20% of the emissions contributing to excessive PM2.5 concentrations during winter.*" The focus of control strategies should be on the major contributors, recognizing that further reductions from point sources will likely be at high cost with little or no benefit. Point source measures should be dropped unless they can be shown to be cost effective in the RACT analysis and individually demonstrated to show benefit towards achieving the PM2.5 NAAQS.

Comment on adding a new State Implementation Plan (SIP) Subsection IX.A.23: Control Measures for Area and Point Sources, Fine Particulate Matter, PM2.5 SIP for the Logan, UT-ID Nonattainment Area.
Comment on adding a new State Implementation Plan (SIP) Subsection IX.A.22: Control Measures for Area and Point Sources, Fine Particulate Matter, PM2.5 SIP for the Provo, UT Nonattainment Area.
As detailed above Section 6.7 includes consideration to reduce the RVP of gasoline sold during specific wintertime periods when inversions are likely to occur. However, using the MOVES2010 to estimate the impact of RVP on exhaust VOC emissions extends the relationship well beyond the data upon which the corrections were developed. The model is intended to simulate summertime conditions, and cannot reliably be extrapolated to wintertime conditions. Using a new model (MOVES 2013), currently being reviewed by the Federal Advisory Committee will demonstrate that reducing the RVP in the wintertime will have no discernible effect on VOC emissions. This consideration should be dropped and other alternative source reduction measures investigated by UDAQ. As follow up to the October 23, 2012 stakeholder meeting, detailed comments relative to this issue are included (Attachment 2).

Comments on PM2.5 Technical Support Documentation
While the TSD provides information related to the suggested control measures, it does not provide a determination or demonstration of the cost per ton of reduction in pollutants that would describe reasonably available control technology (RACT). It is difficult now, and is anticipated to become even more difficult as UDAQ attempts to further define the control strategies that will facilitate meeting the air quality standards, to evaluate the applicability of such strategies in the absence of some type of RACT determination.

Additionally, several requirements specify that they are to be implemented "as soon as practicable." Such requirements provide no definition for regulated entities, and only make compliance and enforcement more difficult. While it is recognized that the EPA may have specified that the air quality standards be achieved "as soon as practicable," this should not be simply restated in the SIP. Part of the RACT analysis is not only the assessment of cost per ton of emission reduction, but also the assessment of how soon controls can reasonably be put into place.

Comments on R307-101-2. General Requirements. Definitions.
UPA reiterates the comments previously submitted by James Holtkamp on October 18, 2012, which included a memo from Michael Tomko of Parsons Behle & Latimer. Specifically, without a proposed version of R307-422 available for comment, UPA cannot adequately evaluate the proposed definitional

changes to R307-101-2. Please reference the complete comment letter included (Attachment 3).

Comments on adding new State Implementation Plan (SIP) Subsections IX.H.11, 12, and 13. Control Measures for Area and Point Sources, Emission Limits and Operating Practices, PM2.5 Requirements.

Comments on IX.H.11.a. General Requirements – Petroleum Refineries

H.11.a.i.-iii. – It appears that the State is proposing to make the refining industry in Utah subject to the latest NSPS requirements, regardless of the date of source construction. However, the actual reduction in emissions achieved by reducing the leak detection limit below 10,000 ppm is minimal, so the benefit to achieving the PM 2.5 standard will also be minimal, and the corresponding cost per ton of reduction high. In addition, the NSPS provisions were meant to cover new units, which can be designed and installed with the appropriate emission controls. We are not sure it is even possible to retrofit existing compressors with a pressurized barrier fluid as required by the NSPS regulations, and the benefit would again be minimal, as these seals are already monitored for leaks under the LDAR program. This consideration should be dropped unless it is shown to be beneficial in the RACT analysis.

H.11.a.iv. – These emission limits were intended for modified FCCUs. Applying them to existing sources may not be possible without significant cost. Pollution control equipment may need to be installed at some facilities. Please refer to the individual comments submitted by UPA Refiners for specific comments relative to the types of controls that may need to be installed to meet this limit. UDAQ has not demonstrated that pollution control equipment installation is both technically and economically feasible.

H.11.a.iv-vii – These emission limitations were modeled after NSPS Ja, and NSPS Ja includes exemptions for startup, shutdown and malfunction. UPA recommends that UDAQ include a similar exemption to the proposed limits on FCCUs, SRUs, and fuel gas combustion devices.

H.11.a.v. – There should be some kind of allowance that states that if the source is already complying with these specific or more stringent FCC limits, then an additional performance test is not required. Moreover, UPA believes that compliance monitoring of sulfur dioxide (SO2) emissions from FCC regenerators should be done by certified Continuous Emissions Monitoring Systems (CEMS) rather than periodic stack testing. The proposed limit is based on a seven-day rolling average determination and should therefore require continuous monitoring to adequately demonstrate compliance with it.

H.11.a.vi.A. – This emission limit is from NSPS Subpart Ja under §60.102a(f)(2) for sulfur recovery plants with a capacity of 20 LTD or less and which operate with an oxidation control system. Again, these restrictions were developed for new or modified sources. Applying them to existing sources may not be possible without significant cost. Sources without either a tail gas treatment unit or additional add-on controls would be required to install controls to comply with this emission limit. Whereas it is possible to design a new unit for this level of recovery, requiring a retrofit would essentially require a post-treatment unit. That would be a very high cost for the amount of emission reduction. This requirement should be dropped, or it should be specified that compliance with Subpart Ja is equivalent. If UDAQ insists on including the limit as stated, UPA requests that an averaging period be specified in H.11.a.vi.A for demonstrating compliance. UPA proposes a seven-day rolling average basis similar to the FCCU averaging time specified in H.11.a.v.

H.11.a.vii.B – UPA believes this statement should be modified to read, "An owner or operator shall not combust fuel gas in any Fuel Gas Combustion Device (FGCD) that contains H2S in excess of 162 ppmv determined hourly on a three-hour rolling average basis."

H.11.a.vii – x. – These paragraphs appear to be from the federal regulation for Subpart Ja. Since that regulation has been finalized, this section should be deleted to prevent confusion. See "Section 6.7" comments above.

H.11.a.xi. - It is unclear what sources are required to conduct this testing. Some affected facilities have PM10 caps that include all heaters, boilers, gas fired compressor drivers, and/or other external combustion process equipment. PM10 emissions from these sources are estimated using AP-42 emission factors. AP-42 Table 1.4-2 footnote (c) states the following about gas fired heaters and boilers:

> All PM (total, condensable, and filterable) is assumed to be less than 1.0 micrometer in diameter. Therefore, the PM emission factors presented here may be used to estimate PM10, PM2.5 or PM1 emissions. Total PM is the sum of the filterable PM and condensable PM. Condensable PM is the particulate matter collected using EPA Method 202 (or equivalent). Filterable PM is the particulate matter collected on, or prior to, the filter of an EPA Method 5 (or equivalent) sampling train.

UPA requests that UDAQ exclude these types of combustion equipment from the stack testing requirements and allow for the use of AP-42 emission factors when determining PM2.5 emissions. UPA believes this requirement is intended solely for determining the PM2.5 emissions from FCCUs. Therefore, UPA requests that UDAQ specifically clarify that this section applies solely to FCCU regenerators.

UPA requests that UDAQ provide the RACT analysis which demonstrates that the controls specified in IX. H.11.a.i – xi are technically and economically feasible. In addition UPA requests the modeling data that shows these controls will demonstrate further progress towards attainment of the PM2.5 standard.

Comments on IX.H.11.b,g, j,r – Specific Petroleum Refinery Sections

"Daily PM10 Emission Limit" sections are included for each refinery. With the exception of the Holly Corporation, paragraph j, the PM10 limits specified are not listed as filterable only emission limits. These limits in most cases were carried forward from the 2005 PM10 SIP. The limits were developed for filterable emission rates only and should be specified as such.

Thank you for the opportunity to provide comments. UPA will continue to support UDAQ in their efforts to model attainment for the PM2.5 SIP. Should you have any questions regarding these comments, please do not hesitate to contact me at (801) 364-1510.

Sincerely,

Lee J. Peacock

Lee J. Peacock
President

Cc: Mike Astin, HollyFrontier Corporation
Michelle Bujdoso, Tesoro Refining and Marketing Company
John Krogue, Chevron Products Company
Stuart Smith, Big West Oil
Blaine Zwahlen, Silver Eagle Refining, Inc.

Attachment #1
UPA Comments
August 10, 2012
Proposed Emissions Standards: Boilers, Steam Generators, and Process Heaters

Attachment 1

Utah Petroleum Association

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August 10, 2012

Mr. John Jenks
New Source Review
Utah Division of Air Quality
P.O. Box 144820
Salt Lake City, Utah 84114-482

Dear John:

UPA members received a copy of the proposed rule *Emissions Standards: Boilers, Steam Generators, and Process Heaters* on August 7, 2012 and comments were requested by August 10, 2012. Given the time constraints only general comments are provided and these comments should not be viewed as comprehensive. Individual UPA members may provide additional and more specific comments.

The stated purpose of this rule is NO_X reduction, while everything communicated from UDAQ on PM2.5 nonattainment shows that NO_X is not a significant contributor to the state's winter PM2.5 issues. Because this rule was not developed to address air quality issues specific to Utah (reference San Joaquin Valley APCD rule 4306), UPA believes many of the proposed provisions are not applicable and would not be effective in addressing Utah specific air quality issues. The provisions of this rule would require extensive retrofits, additional controls, and monitoring equipment on virtually every installed heater and boiler (approximately 70) at Salt Lake area refineries. Some heaters or boilers may require total replacement. These changes would result no demonstrated PM2.5 air quality benefits and according to data provided by UDAQ may actually increase PM2.5 concentrations. UPA requests that UDAQ provide data which adequately supports the conclusion that the required controls under this rule show progress towards improving PM2.5 attainment.

Additionally the limits proposed in this rule are much more stringent than similar EPA limits found in NSPS Ja and NSPS Db. The averaging time (15 minutes vs 30 day rolling average) is also much more stringent than NSPS. UPA requests that UDAQ provide clarification on the additional benefit to going beyond the standards contained in NSPS Ja and Db. The implementation schedule is also unreasonable and not compatible with scheduled refinery turnarounds.

Given the above, it does not appear that this rule represents RACT. UPA requests that UDAQ provide the RACT analysis used to justify this rule. We appreciate your attention to this important matter. I can be reached with any response at (801) 364-1510 or lpeacock@utahpetroleum.org.

Sincerely,

Lee J. Peacock

Lee J. Peacock
President

Attachment #2
UPA Comments
October 31, 2012
RVP Reduction in Gasoline

Attachment 2

Comments on RVP Control for Exhaust VOC Reductions at Wintertime Temperatures

As part of the PM2.5 State Implementation Plan (SIP) development process, the Utah Division of Air Quality (UDAQ) has previously investigated the emissions reduction potential of reducing gasoline Reid vapor pressure (RVP) during the winter. UDAQ's initial assessment of reducing wintertime RVP from 13.1 psi to 12.1 psi showed a 0.3% to 0.5% reduction in VOC emissions using the U.S. Environmental Protection Agency's (EPA's) MOVES2010 emissions model. Importantly, MOVES2010 is estimating that the RVP reduction causes a decrease in exhaust VOC emissions at cold wintertime temperatures, which, as discussed in detail below, is inconsistent with previous EPA emissions models.

Although the draft SIP does not include this measure as a formal control strategy, the draft SIP notes that UDAQ continues to evaluate the efficacy of this strategy. In addition to the potential fuel supply and related cost-effectiveness issues noted by UDAQ staff in the SIP documentation, UPA is very concerned that the modeled results are an artifact of the data and modeling methodology used by EPA in developing fuel corrections for the MOVES2010 model. Thus, we would like to take this opportunity to comment on the validity of the emissions estimates prepared with MOVES2010.

1. There are serious flaws associated with the application of the MOVES2010 fuel correction factors to wintertime fuels and temperatures in the Wasatch Front. According to EPA's technical report on the development of fuel correction factors for MOVES2010[1], the exhaust VOC fuel correction factors in MOVES2010 are based on EPA's "Predictive Model" that was originally developed to assess California's request for waiver of the Reformulated Gasoline oxygenate requirements.[2] Because the primary focus of that assessment was summertime conditions, the test data used in the development of the EPA Predictive Model (and, by extension, the development of fuel correction factors for MOVES2010) were based on testing performed at temperatures greater than or equal to 68°F and on fuels with RVP well below the 13.1 psi and 12.1 psi levels that were assessed by UDAQ staff. (Page 42 of reference 2 indicates that fuels with RVP > 10 psi and tests conducted at temperatures less than 68°F were discarded from the analysis.) Thus, the fuel correction factors in MOVES are being extrapolated well beyond the data used to develop those factors when assessing temperatures and fuel RVP levels typical of wintertime conditions in Utah. Note that the average minimum and maximum January temperatures in Salt Lake City are 21.3°F and 37.0°F, respectively.[3]

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[1] "MOVES2010 Fuel Adjustment and Air Toxic Emission Calculation Algorithm – Development and Results," U.S. Environmental Protection Agency, EPA-420-R-11-009, July 2011.

[2] "Technical Support Document: Analysis of California's Request for Waiver of the Reformulated Gasoline Oxygen Content Requirement for California Covered Areas," U.S. Environmental Protection Agency, EPA-420-R-01-016, July 2011.

[3] See: http://www.rssweather.com/climate/Utah/Salt%20Lake%20City/

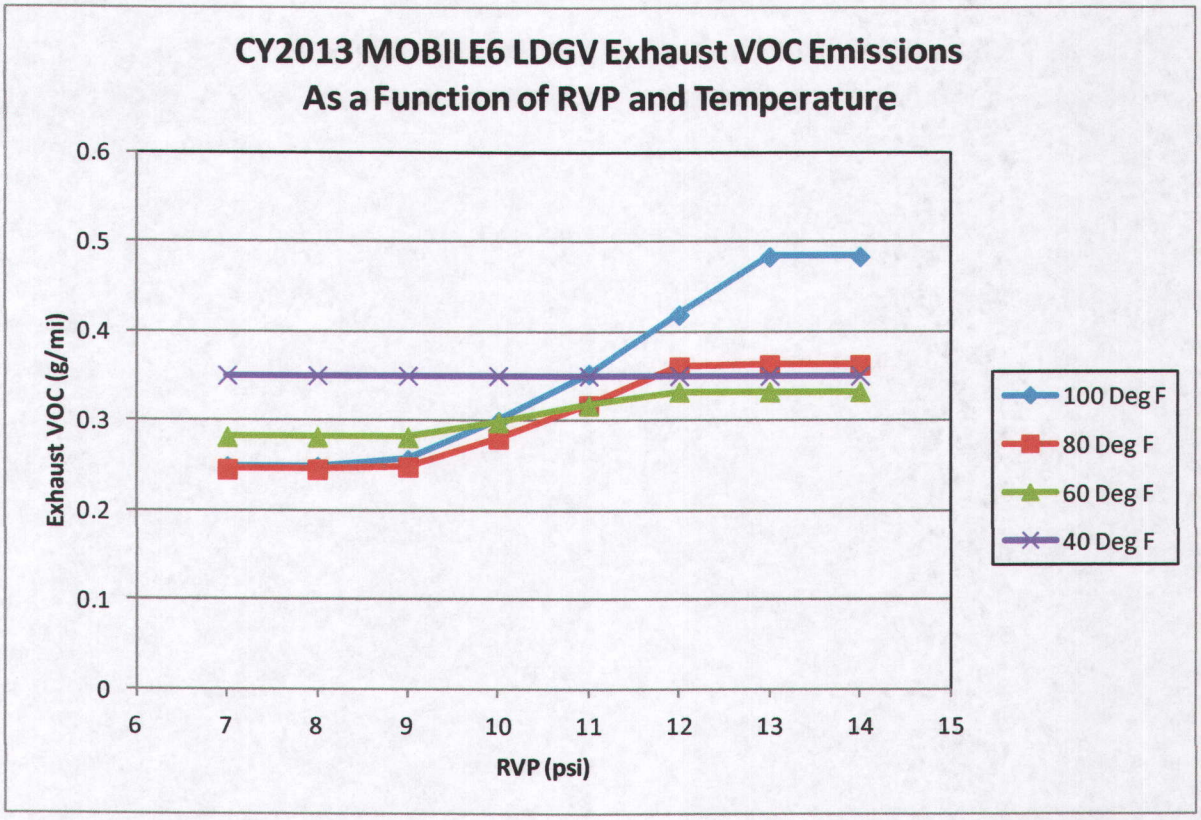
Attachment 2

2. The MOVES2010 fuel correction factors do not properly account for the interrelationship of ambient temperature and RVP on exhaust VOC emissions. Based on our assessment of the MOVES2010 model, which was confirmed with EPA staff, the fuel correction factors for exhaust emissions are applied equally at all ambient temperatures. For example, the model was run at 90°, 70°, 50°, 36°, and 20°F at the two RVP levels that were assessed by UDAQ staff – 12.1 and 13.1 psi – while all other fuel parameters were unchanged. (Although one might also expect changes to distillation properties with the change in RVP, this effect was ignored for this simple analysis.) In all cases, both running and start VOC exhaust emissions for pre-2004 model year passenger cars were estimated to be reduced by 1.08% when the RVP was reduced from 13.1 to 12.1 psi. For 2004 and later model years, the MOVES2010 model assumes no impact of RVP on exhaust VOC emissions, which is consistent with previous EPA assumptions around newer technology vehicles (i.e., they have been assumed to be less sensitive to some fuel parameters, e.g., RVP and oxygenate, because of their more sophisticated fuel control systems).

It is important to note that previous versions of EPA's on-road motor vehicle emissions models (e.g., MOBILE6) have explicitly modeled the interrelationship of ambient temperature and RVP in a combined RVP/Temperature correction factor, and those models have assumed that the impact of RVP on exhaust emissions is negligible at temperatures below 45°F. This is observed in Figure 1, which shows exhaust VOC emissions in grams per mile (g/mi) from light-duty gasoline vehicles (LDGVs) for calendar year 2013 as a function of ambient temperature (100°F, 80°F, 60°F, and 40°F) at a range of RVP levels. As indicated in Figure 1, the RVP impact is most pronounced in the high temperature/high RVP runs. The reason for this model prediction is under the high temperature/high RVP cases, more gasoline vapor is stored in the evaporative canister when the vehicle is parked. When the canister is purged of those vapors during vehicle operation there can be a slightly rich bias to the air-fuel mixture, causing an increase in exhaust VOC as well as carbon monoxide (CO) emissions. At lower temperatures, this effect is reduced, and previous EPA models have turned off this effect at temperatures below 45°F. Thus, the 40°F runs shown in Figure 1 show no impact of RVP on exhaust VOC emissions.

Attachment 2

Figure 1



Previous wintertime RVP control measures have been focused at carbon monoxide (CO) reductions in relatively warm weather areas such as Las Vegas and Phoenix. As noted above, the thought behind such a measure is that at moderate wintertime temperatures (e.g., 50° to 70°F) gasoline vapors build up in the evaporative canister when the vehicle is parked. When the canister is purged during operation, the vehicle runs slightly rich, causing an increase in CO and VOC emissions. This effect is expected to be more pronounced for older vehicles with less sophisticated purge functionality.

In 2003 under contract to the Western States Petroleum Association, Sierra Research conducted a study of the impact of RVP reductions on exhaust CO emissions at moderate wintertime temperatures.[4] That study showed that the impact of RVP on exhaust CO emissions decreased as the temperature decreased from 75° to 45°F. For example, for the ethanol-gasoline blends evaluated in that study, the impact of reducing RVP form 12 to 9 psi resulted in a 9.2% reduction in CO at 75° and a 4.9% reduction at 45°F. Because similar conditions lead to CO and VOC formation (e.g., rich operation), we would expect a similar trend with exhaust VOC emissions.

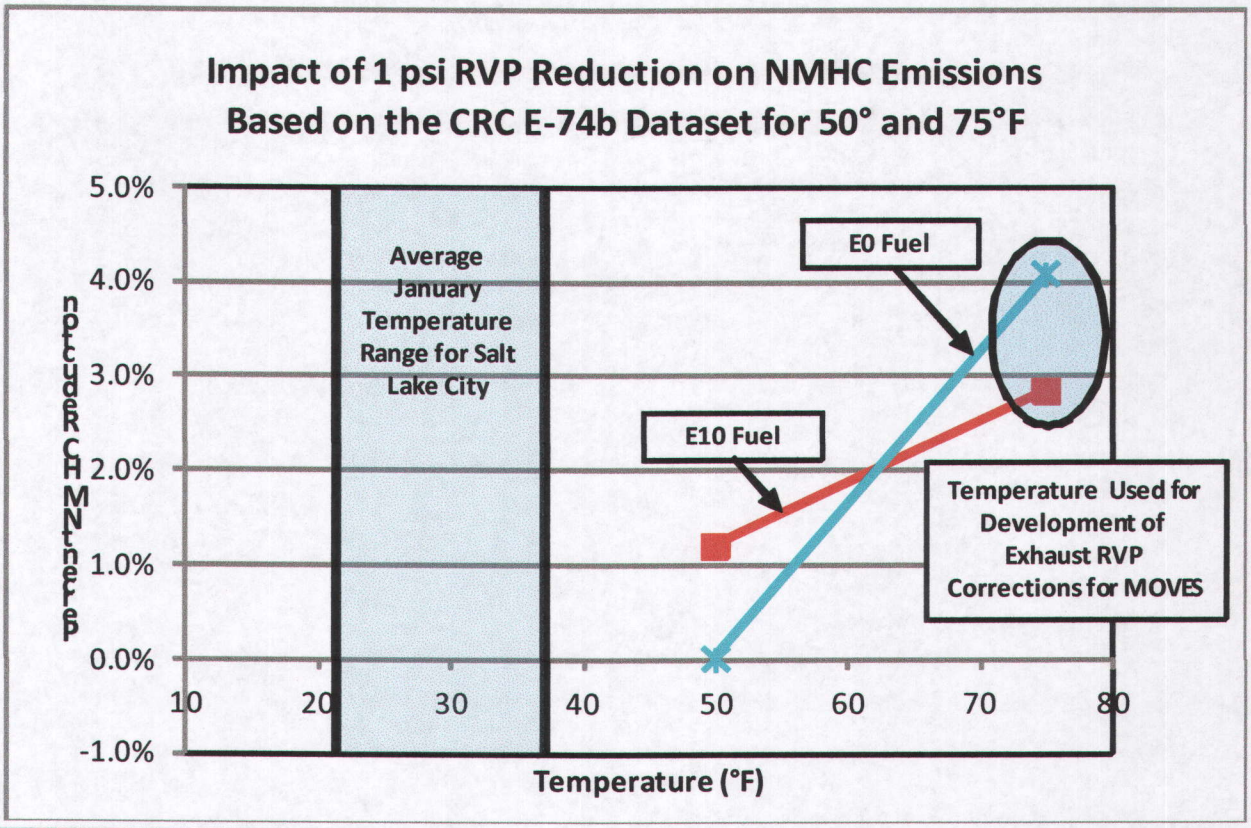
[4] "Review of Current and Future CO Emissions from On-Road Vehicles in Selected Western Areas," Prepared by Sierra Research for the Western States Petroleum Association, Report No. SR03-01-01, January 28, 2003.

Attachment 2

The Coordinating Research Council (CRC) sponsored a study in 2009, also conducted by Sierra Research, that investigated the impact of RVP, temperature, and oxygen content on CO exhaust emissions.[5] In that study, testing was conducted with fuels having an RVP of approximately 13 and 9 psi at temperatures of 75° and 50°F. Fuels were also formulated to have 10% ethanol (E10) and no oxygenate (E0) at the two RVP levels.

Using the non-methane hydrocarbon (NMHC)[6] test data reported in Appendix B of the CRC study, Figure 2 was constructed. The average NMHC emission rate for the 15 vehicles in the study, which ranged from 1994 through 2004 model years, was calculated for the two RVP levels (13 and 9 psi), the two temperatures (75° and 50°F), and for the two fuels (E0 and E10). The percentage NMHC reduction, per 1 psi drop in RVP, is illustrated below at 75° and 50°F and for the two fuels. As observed in that figure, at the lower temperature (50°F) the impact of the RVP reduction on NMHC emissions is substantially reduced. Because RVP and temperature interactions are often non-linear, we did not extrapolate to the temperatures observed in Salt Lake City in the winter. However, one would expect a continued reduction in the RVP effect at temperatures below 50°F. <u>This effect is not captured in MOVES2010, and it is likely to significantly reduce the benefits that the model is currently estimating when RVP is reduced at cold ambient temperatures</u>.

Figure 2



[5] "Effects of Vapor Pressure, Oxygen Content, and Temperature on CO exhaust Emissions," Prepared by Sierra Research for the Coordinating Research Council, CRC Report No. E-74b, May 2009.

[6] Note that NMHC is similar to VOC.

3. The data used to develop the fuel correction factors for MOVES2010 are not representative of currently existing vehicles, engines and fuels. EPA is planning to update this data in the next version of MOVES (MOVES2013), which we understand is due to be released next year. According to EPA's technical report on the development of fuel correction factors for MOVES2010:[7]

> *The algorithms used in MOVES2010 for gasoline and diesel vehicles were developed over 10 years ago. EPA is currently completing analysis of more recent data, representing more extensive testing, modern vehicles and engines, and fuels more representative of what is currently being sold. EPA is planning a more comprehensive fuels update that will include data from test programs being completed as part of the analysis mandated by the 2005 Energy Policy Act (EPACT).*

EPA has begun the process of updating the MOVES model and has convened a MOVES Model Review Work Group under the Federal Advisory Committee Act (FACA).[8] As part of that effort, the fuel corrections are tentatively scheduled to be reviewed during the January 2013 meeting. If, despite the serious flaws listed in items 1 and 2, UDAQ wishes to continue pursuing RVP adjustments, UPA strongly encourages the UDAQ staff to wait until the MOVES2013 model update is complete before continuing to investigate this measure.

In summary, UPA recommends UDAQ drop consideration of wintertime RVP controls as the available data show that RVP adjustment at wintertime temperatures does not significantly impact VOC emissions and will not help to achieve the NAAQS.

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[7] "MOVES2010 Fuel Adjustment and Air Toxic Emission Calculation Algorithm – Development and Results," U.S. Environmental Protection Agency, EPA-420-R-11-009, July 2011.

[8] See http://www.epa.gov/otaq/models/moves/faca.htm.

Attachment #3
James A. Holtkamp, Holland & Hart letter with Michael J. Tomko Parsons, Behle & Latimer memo
October 18, 2012

Attachment 3

Parsons Behle & Latimer®

A PROFESSIONAL LAW CORPORATION

MEMORANDUM

TO: James A. Holtkamp

FROM: Michael J. Tomko

DATE: October 17, 2012

SUBJECT: Extension to Public Comment Period

On October 15, 2012, you submitted a letter to the Utah Division of Air Quality on behalf of the Manufacturers, Petroleum and Mining Associations, requesting an extension to the 30-day comment period for the proposed PM2.5 State Implementation Plan ("SIP") and associated rules. I concur with the request for the extension for all the reasons outlined in your letter. Additionally, I would like to provide you with a specific example of why it is important that the comment period be extended until all of the principal SIP elements, including the associated rules, are proposed.

As part of the PM2.5 SIP rulemaking, UDAQ has proposed to revise R307-101-2 by adding new definitions for the terms "condensable PM2.5," "filterable PM2.5," and "PM2.5 precursor." Vol. 2012, No. 19 Utah Bull. 29 (Oct. 1, 2012). The proposed revisions to R307-101-2 are subject to the current public comment period. Several of these proposed definitions—specifically, filterable PM2.5 and PM2.5 precursor—are relied upon in (tentatively) proposed revisions to R307-422 (establishing PM2.5 offset requirements). The revisions to R307-422 were included in the supporting materials available for the September 5, 2012 Utah Air Quality Board ("AQB") meeting ***but*** UDAQ staff withdrew the proposed revisions to R307-422 at the meeting. Accordingly, the draft revisions to R307-422 were never approved for public comment by the AQB, never published in the Utah Bulletin, and are not subject to the current public comment period.

The decision to push forward with the remainder of the PM2.5 SIP, including definitions integral to the yet to be proposed PM2.5 offset rule, while withholding other provisions, puts the public at a disadvantage in commenting on the SIP proposal. The proposed definitions and the offset rule are integrally related and cannot be commented on in isolation of one another. For instance, there is not a bright line between primary PM2.5 emissions (which, generally, include filterable and condensable emissions) and secondary PM2.5 emissions (which, generally, cover precursor emissions) in the proposed revisions to R307-101-2. The issue is amplified by the draft version of R307-422, where the proposed (but withdrawn) rule only targeted offsets for emission increases of filterable PM2.5 and PM2.5 precursors; there is no statement as to how condensable PM2.5 fits into the draft version of R307-422, leading to uncertainty as to whether

UDAQ intends to treat condensable PM2.5 emissions as primary or secondary emissions of PM2.5. Without a proposed version of R307-422 available for comment, however, we cannot adequately evaluate the proposed definitional changes to R307-101-2. Ultimately, by not putting the entire PM2.5 SIP (or at least its principal elements) out for public comment at the same time, interested parties are being asked to submit comments in the abstract.

Furthermore, as evidence by the foregoing discussion, the issues involved with the PM2.5 SIP rulemaking are complex and require and deserve sufficient time to ensure adequate and competent review and comment by the public. The complexity is compounded by the large number of rules that are subject to the SIP rulemaking.

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October 15, 2012

Mr. Bryce Bird
Director
UTAH DIVISION OF AIR QUALITY
P.O. Box 144820
Salt Lake City, UT 84116

Re: Proposed PM2.5 State Implementation Plan

Dear Mr. Bird:

This letter is submitted on behalf of the Utah Manufacturers Association, the Utah Mining Association and the Utah Petroleum Association (collectively, the "Associations"). The Associations' members collectively consist of approximately 1,000 companies, including the significant manufacturing, mining, oil and gas production, and petroleum refining operators in the State of Utah.

This letter is in response to the notices in the October 1, 2012 Utah State Bulletin (DAR Files 36721, et seq.) regarding the proposed PM2.5 State Implementation Plan ("SIP"), and the thirty-day comment period on the proposed SIP, which closes October 30, 2012.

The proposed PM2.5 SIP contains many provisions that, if finalized, will significantly affect many of the Associations' member companies. Just as importantly, there are many elements of the proposed SIP yet to be developed, which will also affect the Associations' member companies. It is very difficult for many companies to determine what the impacts of the SIP will be, given that it is still incomplete.

The Associations recognize and appreciate the opportunity to provide input to the Division of Air Quality during the stakeholder process and acknowledge the difficult task undertaken by the Division to develop the SIP and associated Technical Support Documents in the face of federally mandated unrealistic deadlines, an extremely restrictive PM2.5 National Ambient Air Quality Standard, and an overly broad PM2.5 nonattainment area designation. However, it is for these very reasons that we believe that the development of meaningful comments from the Associations and many of its individual members requires significant time and resources. We do not believe that a 30-day comment period is long enough.

Accordingly, we respectfully request that the comment period on the proposed PM2.5 SIP and associated proposed rules be extended for at least 30 more days, at least until November 28, 2012.

Sincerely,

James A. Holtkamp

JAH:bwt

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